

To facilitate your review of the Lahaina Groundwater Tracer Study – Final Interim Report we are providing a list of the critical issues discussed during the conference call on 9/11/12 and have identified where these issues are addressed in the report.

- 1) The disagreement between the field and laboratory measured Fluorescein fluorescence
 - a) This issue is discussed in Sections 2.3.4 and 3.2.1.1.2 of the report and supporting graphics can be found in Figures 2-13, and 3-10.
 - b) Section 2.3.4 describes the difference between the field and laboratory fluorometry, discusses the cause, and states the rationale for maintaining the deionized water based calibration solutions in the field. Figure 2-13 shows best fit linear regression line of the correlation between the field measured Fluorescein concentrations and that measured in the laboratory. The regression line equation gives the correction factor that can be used to adjust the field measured Fluorescein concentrations to what we feel is the true value.
 - c) Section 3.2.1.1.2 gives the procedures used to test the fluorescence differences between solutions mixed with deionized water and those mixed with submarine spring water. Figure 3-10 is a graph of the fluorescence of these solutions versus the Fluorescein concentration based on the known mass of this dye in the solutions.
 - d) This issue is also discussed on pages 417, 418, 433, and 434 of Appendix G Draft Report Review Comments and University of Hawaii Corrections and Responses.
- 2) The disagreement between the field and laboratory measured SRB fluorescence
 - a) This issue is discussed in Section 2.3.4 and shown graphically in Figures 2-14 and 2-15. Section 2.3.4 states our conclusion that the elevated Sulpho-Rhodamine-B fluorescence measured by the field fluorometer was actually “bleed over” from the strong fluorescence of Fluorescein. This section further describes the test performed to support this conclusion.
 - b) Figure 2-14 is a time series plot of the Fluorescein and Sulpho-Rhodamine-B fluorescence measured by the field fluorometer. This figure shows that, as measured by the field fluorometer, the fluorescence of these two dyes increase coincidentally. Figure 2-15 shows the response of the field fluorometer’s Rhodamine channel to increasing concentrations of Fluorescein, the only dye in these solutions.
 - c) This issue is also discussed on pages 418, 454, and 455 of Appendix G Draft Report Review Comments and University of Hawaii Corrections and Responses.
- 3) The cause of the green coloration observed at the South Seep Group
 - a) Section 3.2.4 describes the preliminary testing we have done to investigate the source of the green haze seen discharging from the submarine springs in the South Seep Group.
 - b) This issue is also discussed on page 455 of Appendix G Draft Report Review Comments and a photograph of a visible green tint in a 35 ppb solution of Fluorescein (Figure G-3) can be found in this same appendix.

- 4) Section 3.3.1.2 discusses the apparent lack of detection of Sulpho-Rhodamine-B and the possible reasons why this dye has not been found in the samples collected.

We hope this guide helps you in your review of this important report. We will be happy to address any concerns or questions you might have.